AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A semiconductor device comprising:

a wiring board in which electrode pads are formed on ~~the~~ a surface thereof;

a semiconductor element which is disposed on the wiring board and in which electrodes are formed on the surface thereof;

bumps for connecting said electrodes to said electrode pads; said bumps being formed from solder; and

an underfill resin filled between said wiring board and said semiconductor element to embed said bumps, wherein said wiring board comprises a solder resist disposed on the surface of the side on which said electrode pads are formed;

wherein ~~——~~apertures for exposing said electrode pads are formed on the solder resist; ~~and~~

wherein the thickness of said solder resist in the area excluding the area directly above said electrode pads is equal to or greater than the thickness of said underfill resin disposed on said solder resist in said area between said wiring board and said semiconductor element,

wherein the solder resist overlaps the electrode pads in a solder mask defined structure when viewed from a direction normal to the surface of the wiring board, and

wherein the volume of said bumps is less than the volume of said apertures.

2. (original): The semiconductor device according to claim 1, wherein the thickness of said underfill resin disposed on said solder resist is 50 μm or less.

3. (canceled).

4. (previously presented): The semiconductor device according to claim 1, wherein the thickness of said solder resist is 30 μm or more.

5. (canceled).

6. (currently amended): A method for manufacturing a semiconductor device having a wiring board in which electrode pads are formed on ~~the~~ a surface thereof, and a semiconductor element in which electrodes are formed on the surface thereof, wherein said wiring board comprises a solder resist which is disposed on the surface of the side on which said electrode pads are formed, and which is provided with apertures for exposing said electrode pads, said method comprising the steps of:

forming bumps on at least one element selected from said electrode pads and said electrodes;

depositing a liquid resin material on at least a portion of the area in which said semiconductor element is to be mounted on said wiring board;

pressing said semiconductor element to said wiring board to connect said electrode pads, said bumps, and said electrodes to each other;

melting and then solidifying said bumps to join said electrodes to said electrode pads by

way of said bumps; and

curing said resin material and forming an underfill resin so that said bumps become embedded between said wiring board and said semiconductor element,

wherein the distance between said wiring board and said semiconductor element is controlled during the melting of said bumps in said joining step, and the thickness of said solder resist in the area excluding the area directly above said electrode pads is equal to or greater than the thickness of said underfill resin disposed on said solder resist in said area between said wiring board and said semiconductor element after said underfill resin has been formed,

wherein the solder resist overlaps the electrode pads in a solder mask defined structure when viewed from a direction normal to the surface of the wiring board, and

wherein the volume of said bumps is less than the volume of said apertures in the step for forming said bumps.

7. (canceled).

8. (previously presented): The method for manufacturing a semiconductor device according to claim 6, wherein the thickness of said solder resist is 30 μm or more.

9. (previously presented): The method for manufacturing a semiconductor device according to claim 6, wherein the distance between said wiring board and semiconductor element is controlled by controlling the relative position of said semiconductor element with respect to said wiring board in said joining step.

10. (canceled).

11. (previously presented): The method for manufacturing a semiconductor device according to claim 6, wherein a resin material to which a chemical capable of removing an oxide film is added is used as said resin material.

12. (previously presented): The method for manufacturing a semiconductor device according to claim 6, further comprising a step of carrying out plasma treatment on at least one surface selected from the surface on the side on which said electrode pads are formed on said wiring board, and the surface on the side on which said electrodes are formed on said semiconductor element, between the forming of said bumps and the depositing of said resin material.

13. (previously presented): The semiconductor device according to claim 1, wherein the thickness of the solder resist is about 30 μm.

14. (previously presented): The semiconductor device according to claim 1, wherein the thickness of the solder resist in the area excluding the area directly above the electrode pads is at least four times greater than the thickness of the underfill resin disposed on the solder resist in the area between the wiring board and the semiconductor element.

15. (previously presented): The method for manufacturing a semiconductor device according to claim 6, wherein the thickness of the solder resist is about 30 μm.

16. (previously presented): The method for manufacturing a semiconductor device according to claim 6, wherein the thickness of the solder resist in the area excluding the area directly above the electrode pads is at least four times greater than the thickness of the underfill resin disposed on the solder resist in the area between the wiring board and the semiconductor element.

17. (new): The semiconductor device according to claim 1, wherein the solder resist overlaps the electrode pads at outer peripheral end portions of the electrode pads, when viewed from the direction normal to the surface of the wiring board.

18. (new): The method for manufacturing a semiconductor device according to claim 6, wherein the solder resist overlaps the electrode pads at outer peripheral end portions of the electrode pads, when viewed from the direction normal to the surface of the wiring board.